

SECTION 09950 – PAINT REMOVAL

PART 1 – GENERAL

1.1 – RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions apply to work of this section.

1.2 – SUMMARY

- A. This Section includes the following:

1. Remove all paint from existing exterior woodwork to remain, including but not limited to: Cornice, pilasters and columns, pediment (wood only, ornament is composite material), tower louvers, tower window frames.

- B. Related Sections: The following Section contain requirements that relate to this Section:

1. “Hazardous Materials” Section 01***
2. “Finish Carpentry” Section 06200.
3. “Woodwork Conservation” Section 06260
4. “Joint Sealants” Section 7900.
5. “Painting” Section 9900.

1.3 – REQUIREMENTS AND RESTRICTIONS

- A. All paint films are to be treated under the requirements applicable for paint containing dangerous levels of lead. Fully comply with all relevant restrictions of State, Federal and Local authorities as they apply to the removal and disposal of lead containing materials.
- B. Clothing: All workers shall wear clothing that covers their bodies including legs, arms and hands during all paint removal procedures.
- C. Respirators: When heat methods are used all workers shall wear respirators approved by the National Institute for Occupational Safety and Health (NIOSH) with cartridges designed to filter lead. When organic based paint strippers are in used approved respirators to filter organic vapors shall be worn.
- D. No alkaline based paint removers will be allowed on wood surfaces scheduled for repainting or revarnishing. No heat methods may be used on wood attached to building.
- E. Protection: Protect all surfaces not to be stripped from contract with removal chemical. Protect surrounding surfaces from contract with paint and remover during removal procedures.
- F. Paint removal methods and materials shall not leave residues that will interfere with paint adhesion.
- G. Paint removal methods shall not burn or scorch wood surfaces nor shall they alter profiles and details as a results of scratching, gouging, ripping or otherwise removing wood substrates.
- H. No flammable chemicals or strippers may be used on the site, no exceptions shall be allowed.

- J. Provide fire extinguishers and hoses connected to water supply adjacent to each work station for stripping with heat source.
- K. “Dip” stripping of laminated or veneered items shall not be permitted.

1.2 – QUALITY ASSURANCE

- A. The work of this Section shall be done by a firm with demonstrated previous successful experience in removing paint from historic woodwork. Provide evidence of five (5) successfully completed historic buildings with substantial areas of exterior paint removal.
- B. **Mock – up:**
 - 1. Demonstrate paint removal from cornice. Sample shall show ten lineal feet complete from the uppermost to lower most cornice element for approval by the Architect before proceeding with the work. Repeat mock – up until approval is obtained. Retain mock – up until the commencement of additional repairs.

1.3 – PRODUCT DELIVERY AND STORAGE

- A. Deliver manufactured products in original unopened packages or containers, with manufacturer’s label intact and legible. No packages shall be larger than 5 gallons.
- B. Store all solvents and strippers only in area designated by the Contracting Officer. Provide locked metal storage box for these materials. Conform to all manufacturer’s for storage temperatures.

PART 2 – PRODUCTS

2.1 – PAINT STRIPPING

- A. Organic paint stripper: Peel-Away 6 or Peel-Away 7, Dumond Chemical, 1501 Broadway, New York, New York; Envirostrip III, Pros co; 5f5, Stirling-Clark-Lurton, or equal. No alkaline based paint strippers may be used. No flammable stripper may be used.
- B. Heat guns: Heavy-duty, metal encased with variable heat control (500-750 degrees F). May only be used on woodwork removed from the building.
- C. Brushes, rollers and other application tools as required compatible with the nature of the removal chemicals.
- D. Scrapers: Standard and specially fabricated for removing softened paint when heat or poultice method is used. All metal scrapers shall have rounded corners so as not to gauge wood surfaces.
- E. Paint thinners, steel wool and hand sanders for removing paint from crevices and depressions.

PART 3 – EXECUTION

3.1 – INSPECTION AND ACCEPTANCE

- A. Examine all work prepared by others to receive work of this Section and report any defects affecting

installation to the Contractor for Correction. Commencement of work will be construed as complete acceptance of preparatory work by others.

3.2 – PAINT REMOVAL PROCESSES

- A. Chemical Stripping. Apply stripper materials in conformance with manufacturer's instructions. Dwell time will be determined during the mock-up procedures. Scrape softened paint films from the surface using scrapers conforming the requirements for each architectural surface. Repeat stripper application as necessary to remove all paint.
- B. Paint removal heat gun:
 - 1. Apply heat until paint film softens. Care must be taken not to scorch the surface.
 - 2. Immediately scrape away the softened paint. Scrape only in the direction of the grain taking extreme care so as not to mar or gouge the wood. Use scrapers that conform to the profiles of the substrate. If the paint is not completely removed in one application, repeat the process.
- C. Lightly sand the surface of the wood after the paint is removed. Sand in the direction of the grain and remove and embedded traces of paint. All surfaces shall be left in condition acceptable for woodwork conservation, specified in Section 06250, and painting preparation/painting, specified in Section 09950.

END OF SECTION 09950

SECTION 06250 – WOODWORK CONSERVATION

PART 1 – GENERAL

1.1 – RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions apply to work of this section.
- B. Work specified in this Section includes work that shall be paid by Unit Prices and/or Allowances. Refer to Section 01020 – Allowances, Section 01026 – Unit Prices.
 - 1. Unit Prices: Cornice modillions; cornice flat entablature, cornice soffit, cornice moldings, gutter face.
 - 2. Allowances: (Framing) Roof outriggers, gutter bottom.

1.2 - SUMMARY

- A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary and/or required for the complete execution of the exterior existing woodwork conservation, replacement and repair for this project as required by the schedules, keynotes and drawings.
 - 1. This Section coordinates with Section 06100 – Rough Carpentry, Section 06200 – Finish Carpentry, Section 09900 – Painting and Section 09950 – Paint Removal. Named Sections are complimentary and all requirements of those Sections apply to this work as if restated in full. Full paint removal is required at all exterior woodwork to remain.
 - 2. Replacement balustrade on the existing building to remain is specified in Section 06200 – Finish Carpentry.
- B. This Section includes the following.
 - 1. Cornice Conservation, Replacement and Repair: This work includes the full height of the cornice including the gutter box, the soffit, the modillions, the fascia boards and trim moldings. This work is divided into three levels of condition: W1 – good condition, includes general repair items; W2 – fair condition, includes more extensive conservation, renailling and minor replacement; W3 – poor condition, includes substantially dissembly, replacement, conservation and potential repair to hidden framing.
 - 2. Columns and pilasters (north elevation). W1 – good condition, minor conservation; W2 – Fair condition, includes resetting and providing conservation and Dutchman repair (including investigation opening); W 3 – fair condition, includes repair to checks and splits.
 - 3. Pediment W1 – good condition, caulk gaps between boards.
 - 4. Doors and Frames: North, East, West and Basement
 - 5. Attic Windows
 - 6. Tower Louvers and frames W2 – fair condition, includes conservation, dutchman and restoration.
- C. General Work Items
 - 1. The terms “conserve”, “conserve to architectural standards”, “restore: and “Conservation repairs”

as used in this specification shall include the following work activities:

- a. Re – fastening of all sound but loose existing trim, and installation of all new or restored elements in their original positions, together with any rough carpentry that may be required for sound installation.
- b. Millwork to provide new exact replica elements to replace badly deteriorated or missing items. Millwork shall include both external and original internal structural elements. Replacement millwork shall duplicate the original element as to the species of wood, dimensions of the stock, exact profiles based on undamaged areas of the original, and the methods of installation, unless otherwise indicated.
- c. Conservation by epoxy consolidation and filling of deeply fissured, punky, or otherwise deteriorated trim and original structural elements determined to be salvageable. Wood dutchmen / replacement shall be used in conjunction with epoxies for filling of voids exceeding 2 cubic inches in volume.
- d. Filling of gaps between individual sections of wood, and splits within single elements where cyclical movement is anticipated, with the specified flexible sealant material.

2. Additional Definitions:

- a. The terms “replicate”, “provide replica replacement”, and “replace to match existing original” as used in this specification shall mean that the replacement item is to match the best available representative original element in color, dimension, texture, design, material, fabrication details, and installation, and shall also incorporate improvements which represent the best standards of fabrication and workmanship, so that even if an existing best example of an element is gouged, pitted, worn, or is missing sections, the new element shall be without such defects and fabricated from new material. Identification and selection of all original elements shall be provided by the Architect.
- b. The term “repair” shall mean that the element shall be made to function as originally intended, or as otherwise specified, and that identified defects shall be corrected to match adjacent surfaces by means and methods indicated for each element.
- c. The term “restore” shall mean that the element shall be returned to its original appearance by patching in currently missing or badly damaged portions with new material.

C Related Sections: The following Sections contain requirements that relate to this Section:

1. Selective Demolition (02070)
2. Lead Abatement (02090)
3. Rough Carpentry (06100)
4. Finish Carpentry (06200)
5. Caulking and Sealing (07900)
6. Painting (09900)
7. Paint Removal (09950)

1.3 – QUALITY ASSURANCE

- A. The work of this Section shall be performed by a “Specialist” or “Specialty Contractor” who can demonstrate previous trade restoration experience on a minimum of 5 historically significant buildings at least 3 of which shall be on the National Historic Register.
 - 1. The terms “Specialist” or “Specialty Contractor” as used in these specifications shall mean an individual or firm of established reputation for performance of work of highest quality, or if newly organized, whose personnel have previously established a similar reputation in the same field, which is regularly engaged in, and which maintains a regular force of workmen skilled in either manufacturing or fabricating items required by the Contract, installing items required by the Contract, or otherwise performing work required by the Contract.
- B. “Specialist” or “Specialty Contractor” shall provide sufficient workmen and supervisors who shall be present at all times during execution of this portion of the Work, and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.

Each mechanic assigned to the work of this Section must demonstrate previous successful experience in each of the operations to which he/she is assigned. Mechanics whose work does not meet the standards as established by the project mockups as required in Section 01430 and within this technical Section will not be permitted to perform that operation.

- C. Provide sufficient workmen and supervisors who shall be present at all times during execution of this portion of the Work, and who shall be thoroughly familiar with the type of construction involved and the materials and techniques specified.

1.4 - SUBMITTALS

- A. Shop drawings, samples, and work plans shall be submitted in accordance with the requirements established in Work Section 01300.

Work on each specific item requiring submittals shall not proceed until the submittal is approved by the Architect.

- B. Shop Drawings. Shop drawings shall consist of the following:
 - 1. The terms “Specialist” or “Specialty Contractor” as used in these specifications shall mean an
 - Profiles for shop drawings of all millwork shall be taken from actual historic elements to be replicated with any paint build – up removed to reveal the original profiles.
 - 2. Drawings at half or full size showing method of fabrication for all elements to be built up from more than a single piece of stock.
 - 3. Drawings at half or full scale showing details of installation of all new millwork.
 - 4. Drawings at half or full scale showing details of installation for all elements to be removed, disassembled, and reinstalled.
- C. Mockups and samples. Provide mockups for each of the items listed in locations designated by the Architect.

Mockups will be used to measure standards of workmanship, finish, texture, material, detail and qualifications of workman with regard to requirements set forth above.

Each mock – up for conservation shall consist of two distinct and separate sections, one demonstrating epoxy consolidation procedures, and the other demonstrating epoxy filling procedures including finishing to match adjacent surfaces. All mock – ups must be reviewed prior to application of any new paint, except for primers only newly installed elements.

Full scale epoxy repairs for each scheduled work item shall not commence until required samples have been approved for that item.

Samples shall be retained in place during the full course of production epoxy repair for each scheduled work item to serve as a quality standard for that item.

1. Millwork.
 - a. Provide full size samples a minimum of 12 inches long of all millwork elements required for the execution of the work for approval as to conformance to shop drawings and existing original elements prior to installation.
2. Conservation mockups for each of the following are required to be performed.
 - a. Two cornice area, full height by five (5) feet long; one at condition W1, one at W3.
 - b. Conservation of one column
 - c. East pilaster at North entry to include: removal of displaced sections, paint stripping, epoxy conservation, woodwork repair.

- E. Inspection and work plan. Submit written work plans for repair items designated below. Plans shall be formulated after initial field inspection and in some cases disassembly of items to be repaired, and shall include proposed repair methodologies for defects and conditions uncovered during the inspections.

Work plans shall include time schedule of work, extent of replacement with new material proposed, and detailed procedures to be followed for repairs and reinstallation.

- F. Identification of Building Components. Submit proposed system for labeling of all building components requiring removal and reinstallation for the following purposes:

1. Temporary labeling to ensure that disassembled elements can be clearly identified and reassemble in their original positions on the building.

- G. Material Safety Data Sheets (MSDS). Submit sheets for each product proposed for use for the work of this section.

- H. Submit manufacturer's printed instructions and recommendations for each product proposed for use for the work of this section.

- I. Contractor shall take all necessary field measurements prior to fabrication and installation of work and shall assume complete responsibility for accuracy of same.

1.5 - REQUIREMENTS AND RESTRICTIONS

- A. Examine the substrate and supporting structure and the conditions under which carpentry work is to be installed, and notify the Architect of conditions detrimental to the Work. Do not proceed with the installation until unsatisfactory conditions have been corrected in a manner acceptable to the Architect.
- B. All epoxy materials must be applied when the temperature is between 50 and 85 degrees F.

1.6 – PRODUCT DELIVERY AND STORAGE

- A. Time delivery and installation of carpentry work to avoid delaying other trades whose work is dependent on or affected by carpentry work, and to comply with protection and storage requirements.
- B. Keep carpentry materials dry during delivery, storage and handling. Store lumber in stacks with provision for air circulation within stacks. Protect bottom of stacks against contact with damp surfaces. Protect exposed materials against weather. Do not store dressed or treated lumber outdoors.
- C. Store epoxy material in manufacturer's original labeled container. Provide secure storage for epoxy materials.

1.7 – GUARANTEE/WARRANTY

- A. The Contractor shall guarantee the work of this Section for a period of two (2) years from substantial completion.
- B. The guarantee shall extend to all cracking of repair material, faulty cure of materials and faulty application of wood conservation materials and related woodworking accessories.

PART 2 – PRODUCTS

2.1 - MATERIALS

- A. Dimensional Lumber – All materials, unless specifically approved in advance by the Designer, shall meet or exceed the following:
 - 1. Exterior trim (unworked and molded) – clear eastern white pine, western white pine, or sugar pine.
 - 2. Structural lumber – pressure treated southern yellow pine treated to comply with applicable requirements of American Wood Preservers Bureau, treatment C – 2, available from AWPI.
 - 3. Dress dimensional lumber S4S unless otherwise shown or scheduled.
 - 4. Maximum moisture content of dressed dimensional lumber – 15% at time of dressing and complying with dry size requirements of PS20. Mark lumber “ML – 15.”
- B. Miscellaneous Lumber: Furnish wood for support or attachment of other work such as cant strips, sheathing, nailers, blocking, grounds, roof sheathing, stripping and similar lumbers.
 - 1. Moisture content: 15% maximum at the time of dressing.
 - 2. Grade: Construction grade light framing size lumber Southern Pine or board size lumber, as required. Provide No. 2 boards (SPIB or WWPA)

- C. Anchorage and Fastening Materials – Select proper type, size, and material for each application. All materials to be hot-dip galvanized. Comply with the following:
1. Nails and Staples: FS FF-N-105.
 2. Wood Screws: FS FF – S – 111.
 3. Bolts and Studs: FS FF – B – 575.
 4. Nuts: FS FF – W – 92.
 5. Washers: FS FF – W – 92.
 6. Lag Screws or Lag Bolts: FS FF – B – 561.
- D. Wood Preservatives
1. Back prime all new wood elements prior to installation with the priming paint specified in the painting section as a preservative treatment.
 2. Where wood is to remain unpainted treat with V.O.C.compliant alkyd oil coating as manufactured by one of the first line manufacturers nominated in Section 09900.
- E. Materials for Conservation
1. Epoxis to be Liquid Wood for epoxy consolidant, and WoodEpoxy for epoxy filler, both manufactured by Abatron, Inc., 141 Center Drive, Gilberts, IL 60136 (312-426-2200), West System, or approved equal.
 2. Glue for installing inserts shall be waterproof.
 3. Wood inserts and new wood elements to match existing species unless otherwise indicated and direction or grain of element to be patched or replaced. Moisture content not to be greater than 15%.
 4. Caulking Compound: Polyurethane based, one part elastomeric sealant.

PART 3 – EXECUTION

3.1 – INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation/

Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.2 – INSTALLATION, GENERAL

- A. Remove paint according to the requirements of Section 09950. No epoxy materials may be applied over paint.
- B. dismantle wood elements as required to perform work, with care to not damage sound elements to be reinstalled. All wood elements shall be carefully numbered as to original location to facilitate reinstallation.
- C. Refasten all loose elements. All nail and screw heads shall be countersunk and filled with putty: Putty shall be applied after wood primer coat.
- D. Provide replacement elements for missing or severely deteriorated elements. New wood shall be sanded smooth so that milling marks are not visible.

- E. Caulk all exposed joints between dissimilar materials and wood to wood joints as required to protect joints from water penetration while allowing of movement of the wood elements.

3.3 –INSTALLATION, SPECIFICS

- A. Sand surfaces to remove friable materials, taking care not to damage profiles of molded pieces. Consolidate and patch weathered, and fissured wood elements with specified epoxy conservation materials according to instructions of manufacturer and “Epoxy for Wood Repair in Historic Buildings” by Morgan Phillips and Dr. Judith Selwyn.
- B. Prepare wood by cutting back and removing loose, punky, soft and flaking wood from surfaces. Remove all splinters, dust, dirt and foreign matter.
- C. All voids in wood requiring filling are first to be primed using the epoxy consolidant. Fully saturate all areas with consolidant, repeat consolidation until wood will absorb not additional consolidant. Where large or deep areas are to be consolidated, drill holes to receive consolidant.
- D. After completion of consolidation, mix and install epoxy paste to fill all cracks, voids and cavities. Voids greater than 2 square inches are to receive dutchman repair bedded in specified adhesive, not epoxy paste filler. After filling and dutchman operation is complete and epoxy is set, sand all excess filler from the surface, no filler is to overlap onto sound wood surfaces. When filling splits and cracks, the resulting surface shall have the epoxy “marbled” into the surface and not coated over the surface.
- E. Repair of Missing or Broke Elements.
 - 1. Gluing and Filling. Glue together any elements that have been treated separately. Fill small voids and fissures in surface with epoxy filler. Fill larger voids by gluing wood dutchmen in place. Replace any substantial areas of carving that have broken off by gluing on wood dutchmen blanks. Very small missing pieces such as the tip of a carved leaf shall be left as is.
 - 2. Carving. Carve dutchmen and epoxy filler to restore missing elements and split surfaces to match the condition of the adjacent surfaces.
- F. Backprime all new elements on all concealed surfaces prior to installation. Prime all exposed wood surfaces after installation. Coordinate with Section 09900.
- G. Reinstall each element in its original location. Where feasible reuse original nails augmented by modern nails. Predrill nail holes where necessary to prevent splitting of wood.

Repair blockings as required to provide firm and plumb grounds for reinstallation. Deteriorated elements shall be replaced, sistered with new members to provide adequate support, or infilled with wood dutchmen each to match historic configurations.
- H. Flashing. Install lead flashing caps over tops of each element to the weather bedded in sealant and tacked at rear only. (Balustrade)
- I. Specifics of Cornice Work.
 - 1.W 1 work shall include:
 - a. Remove all modillions, strip paint, replace badly damaged units as required.

- b. Remove soffit. Repair roof outrigger framing and underside of gutter trough as necessary. Replace soffit boards with new material, refer to Section 06200 for material requirements.
- c. Remove paint from all cornice elements including gutter face, fascia and moldings. Provide minor epoxy repair to these elements as required.
- d. Reinstall modillions.
- e. Provide minor epoxy repair as necessary, remove paint in areas where epoxy repair is required.

2. W2 work shall include:

- a. All items included under W1.
- b. Additional epoxy conservation.
- c. Minor renailing of loose elements.
- d. Minor dutchman repair.

3. W3 work shall include:

- a. All items included under W1 and W2.
- b. Disassembly of elements in addition to soffit.
- c. Repairs to roof framing, gutter and cornice outriggers.
- d. Replacement of moldings, flat cornice entablature, gutter face etc. (Approximately 50% of areas marked).

J. Columns and pilasters.

1. W1 work shall include:

- a. Minor epoxy repair.

2. W2 work shall include:

- a. Item included under W1
- b. Resetting areas displaced from the wall (pilasters)
- c. Dutchman at losses, or investigation areas.
- d. Provide epoxy repair at splits and checks, particularly at column/pilaster bases.

K. Pediment. All W1

- 1. Caulk horizontal gaps between boards.

L. Tower louvers and frames. All W2.

- 1. Minor conservation repairs – 25% of areas.
- 2. Replacement of louvers or moldings – 25 % or areas.

M. Attic Windows.

N. Doors and frames.

END OF SECTION 06250